

ITMC 2015 Project Excellence Awards

Project Title: Pilot and Aircraft Registration

Agency: Montana Department of Transportation (MDT)

Nominated by:

Becki Kolenberg, General Manager

Montana Interactive

becki@egovmt.com

406-449-3468 X224

Team Leader/ Members:

Debbie Alke, Administrator, Aeronautics Division, MDT

Gayleen Strachan – Project Manager, MDT

Mandy Needham – Computer Supervisor, MDT

Josh Wisler - Computer Systems Analyst, MDT

Patty Kautz - Financial Contact, MDT

Samantha Mongoven – Director of Marketing and Operations, Montana Interactive

Summary Paragraph:

The Montana Department of Transportation's Pilot and Aircraft Registration service enables users to complete their pilot and/or aircraft registration or renewal and submit any payments using simple, interactive online forms. Users can register themselves as pilots, register one or more aircraft, or complete both their pilot and aircraft registrations in one transaction.

Project Description:

Before the online Pilot and Aircraft Registration service, the Montana Department of Transportation's Aeronautics Division began the registration renewal process by tracking the deadlines for upcoming renewal requirements and mailing paper forms to the pilots and aircraft owners. The pilots and aircraft owners then filled the forms in by hand and mailed them back to the Aeronautics Division, where the staff had to manually transfer the data from the handwritten entries on the paper forms into the registration database. This outdated system was time-consuming, expensive, and prone to errors.

The Pilot and License Registration service that was developed was able to address the problems associated with a manual renewal process. The service includes features that allow users to choose among options to register for a pilot license, an aircraft license or both simultaneously. The functionality allows users to either visit initially or to renew an existing registration with equal ease. There is also functionality available that allows pilots or aircraft owners to purchase key aeronautics items that are available at the time of registration.

Linking Montana's Heritage with its Digital Future

The Pilot and Aircraft service was built through a partnership with the state of Montana and Montana Interactive (MI) as a self-funded service. By providing this application through the self-funded model, MDT and the state of Montana benefited from a cost avoidance of \$42,060 for the initial development and \$8,424 for maintenance. The cost avoidance will continue to grow as enhancements and ongoing maintenance is provided through the life of the service.

Success for the Pilot and Aircraft registration service was measured in two ways: replacement of an outdated service creating efficiencies for the Department of Transportation and its staff and enabling the projected users to also save time by being able to quickly and simply register using the service. In developing the Pilot and Aircraft Registration service, the Department of Transportation achieved a streamlined process of both initial registration and renewals that saves time and money while simultaneously reducing data entry errors. Additionally, by giving the registrants direct access to the system, the innovative Pilot and Aircraft Registration service cut the effort necessary to process registration renewals by nearly a third, saving considerable time and effort for the Aeronautics Division.

The Pilot and Aircraft Registration Service uses responsive Web design so that the site responds to each screen size, platform and orientation. The use of flexible grids and layouts, images and CSS media queries enables the Pilot and Aircraft Registration site to accommodate various resolutions, image sizes and scripting abilities.

The Pilot and Aircraft application is hosted by two (2) load-balanced servers dedicated to mt.gov applications. This configuration offers enhanced performance by sharing the user load and increased stability as either server is capable of hosting the application alone if the other should fail.

The application was written on the latest ASP.NET MVC platform and leverages the Twitter Bootstrap framework to fully support mobile devices. It was co-developed with the client as they wanted to maintain control of the business logic and house the data. This was accomplished by employing a JSON web service layer that performs business validations and feeds data to the client system. Additionally, the client services handle the fee calculations which are implemented as asynchronous calls to avoid any impact to the responsiveness of the application. The JSON services were also used to look up existing data from the clients system. This feature reduces the amount of data that needs to be entered by the user and prevents duplicate entries on the client's source system.

The payment portion of this service leverages a common checkout application that is reused across many of our services. This helped keep the development costs to a minimum and offers the users a mature, thoroughly tested, payment portal. This was the first application to implement the new asynchronous interface to common checkout, reducing server load and improving overall performance.

The Pilot and Aircraft Registration service benefits not only pilots and aircraft owners across the state of Montana, but also the staff at the MDT Aeronautics Division who do the day-to-day

Linking Montana's Heritage with its Digital Future

work of processing pilot and aircraft registrations and renewals. The online registration service makes the entire process of pilot and aircraft registrations smoother and easier, from both the perspective of those applying for registrations and those who process them.